UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,233	03/02/2004	Shohei Moriwaki	70456-018	9841

7590   10/17/2007

McDermott, Will & Emery
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER
ALIA, CURTIS A

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
10/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/790,233	MORIWAKI, SHOHEI
	Examiner	**Art Unit**	
	Curtis Alia	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>02 March 2004</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-6</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-6</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>See Continuation Sheet</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20071003

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2006 August 14, 2006 July 20, 2004 March 02.

DETAILED ACTION

1.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

> 1.   Determining the scope and contents of the prior art.
> 2.   Ascertaining the differences between the prior art and the claims at issue.
> 3.   Resolving the level of ordinary skill in the pertinent art.
> 4.   Considering objective evidence present in the application indicating obviousness
>   or nonobviousness.

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Booth (US Patent

No. 6,065,073) in view of Taborek et al. (US Patent Application Publication No. 2003/0217215).

        For claim 1, Booth discloses a communication module comprising a microcomputer

performing general control of the communication module (see column 8, lines 11-15, Network

interface card contains a chipset controlling the interface connection), wherein the

microcomputer includes a storing portion storing a copy of a register in accordance with a

predetermined timing (see column 8, lines 24-29, status register is auto-polled based on a

predetermined period of time) and an input/output portion outputting the copy of the register

stored in the storing portion to a host device in accordance with a request by the host device (see

column 8, lines 18-21 and 28-30, control values are changed via an MDIO interface by the auto-

polling unit configured by the host CPU).

For claim 1, Booth teaches all of the limitations with the exception that the

communication module comprises a retimer controlling a physical layer. Taborek, from the

same field of endeavor teaches that the retimer is a physical layer controller and is used to clean

up and amplify signals received through a physical dependent medium (PMD) (see paragraph 53,

lines 7-10, paragraph 56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY

(CHIPSET) 310 block of the switched line card). Thus, it would have been obvious to a person

having ordinary skill in the art at the time of the invention to use a retimer as the physical layer

controller for a WDM signal (such as optical fiber signal). This is done to resynchronize the

signal with the local clock. The motivation to combine these teachings is that when dealing with

an optical signal's degeneration, the signal must be refreshed before being converted to electrical

signal, and vice versa.

4.   Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Booth and

Taborek in view of XENPAK Multi-source agreement (hereinafter "XENPAK").

For claims 2 and 3, Booth and Taborek teach all of the limitations with the exception that

the storing portion further stores contents of a register defined by 10-Gb Ethernet communication

module multi-source agreement and the microcomputer further includes a nonvolatile memory in

which the copy of the register stored in the storing portion is written. XENPAK teaches that

besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE

802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3,

XENPAK Register Set). Thus it would have been obvious to a person having ordinary skill in

the art at the time of the invention to include a XENPAK standard into a communication module

for 10-Gb Ethernet. A XENPAK module can be installed into the communication module so that

it conforms to XENPAK multi-source agreement.

5.   Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Firoozmand

(US Patent No. 5,136,582) and Booth, in view of Taborek, in further view of XENPAK.

        For claim 4, Firoozmand discloses a communication module comprising a first and

second microprocessor performing control of the communication module (see column 4, lines

16-18, plurality of processors), wherein the first microprocessor includes a first storing portion

(see column 4, lines 16-18, at least a first and second memory) and a first input/output portion

(see column 4, lines 19-22) and the second microcomputer includes a second storing portion (see

column 4, lines 16-18, at least a first and second memory) and a second input/output portion (see

column 4, lines 19-22).

        For claim 4, Firoozmand teaches all of the limitations with the exception that the first

storing portion stores a copy of a register having a value updated by the retimer in accordance

with predetermined timing and the first input/output portion outputs the copy of the register

stored in the first storing portion to a host device in accordance with a request by the host device,

and the second input/output portion outputs the contents stored in the second storing portion to

the host in accordance with a request by the host device. Booth teaches that a status register is

auto-polled based on a predetermined period of time (see column 8, lines 24-29) and that the

status register values are transmitted via an MDIO interface by the auto-polling unit configured

by the host CPU (see column 8, lines 18-21 and 28-30). Thus, it would have been obvious to a

person having ordinary skill in the art at the time of the invention to have a multi-processor

communication module capable of controlling memories/registers and outputting the values of

those registers via an input/output port. A first processor would be capable of performing tasks

on one set of memory, such as updating the first register based on the retimer and outputting the

value of the register via a first input/output port, and a second processor would be capable of

performing another task, such as sending the value of registers via an input/output port to a host

device in response to the request of the host device. The motivation for combining these

teachings is that while a host polls one register more often than the other, both processors would

not be overloaded.

For claim 4, Firoozmand and Booth teach all of the limitations with the exception that the

communication module comprises a retimer controlling a physical layer. Taborek, from the

same field of endeavor teaches that the retimer is a physical layer controller and is used to clean

up and amplify signals received through a physical dependent medium (PMD) (see paragraph 53,

lines 7-10, paragraph 56, lines 12-15, Figure 3, Retimer RTMR is coupled to the PHY

(CHIPSET) 310 block of the switched line card). Thus, it would have been obvious to a person

having ordinary skill in the art at the time of the invention to use a retimer as the physical layer

controller for a WDM signal (such as optical fiber signal). This is done to resynchronize the

signal with the local clock. The motivation to combine these teachings is that when dealing with

an optical signal's degeneration, the signal must be refreshed before being converted to electrical

signal, and vice versa.

For claim 4, Firoozmand, Booth, and Taborek teach all of the limitations with the

exception that the second portion stores contents of a register defined by 10-Gb Ethernet

communication module multi-source agreement and the first microcomputer further includes a

first nonvolatile memory in which the copy of the register stored in the first storing portion is

written and the second microcomputer further includes a second nonvolatile memory in which

the contents stored in the storing portion is written. XENPAK teaches that besides the standard

registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also

defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set). Thus

it would have been obvious to a person having ordinary skill in the art at the time of the

invention to include a XENPAK standard into a communication module for 10-Gb Ethernet. A

XENPAK module can be installed into the communication module corresponding to each

processor on the communication module so that it conforms to XENPAK multi-source

agreement, and so that it would facilitate the multiprocessor setup in the communication module.

For claim 5, Booth, Taborek and Firoozmand teach all of the limitations with the

exception that the first microcomputer further includes a first nonvolatile memory in which the

copy of the register stored in the first storing portion is written in accordance with a

predetermined timing. XENPAK teaches that besides the standard registers defined for all 10-

Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-

volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set). Thus it would have been

obvious to a person having ordinary skill in the art at the time of the invention to include a

XENPAK standard into a communication module for 10-Gb Ethernet. A XENPAK module can

be installed into the communication module so that it conforms to XENPAK multi-source

agreement.

For claim 6, Booth, Taborek and Firoozmand teach all of the limitations with the

exception that the second microcomputer further includes a second nonvolatile memory in which

the copy of the register stored in the second storing portion is written in accordance with a

predetermined timing. XENPAK teaches that besides the standard registers defined for all 10-Gb Ethernet transceiver modules by IEEE 802.3ae, the XENPAK also defines a set of non-volatile registers (NVRs) (see section 10.8.3, XENPAK Register Set). Thus it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a XENPAK standard into a communication module for 10-Gb Ethernet. A XENPAK module can be installed into the communication module so that it conforms to XENPAK multi-source agreement.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmidt et al. (US Patent No. 6,038,689), Wolf et al. (US Patent No. 6,278,694), Samson (US Patent No. 6,487,647), Gurkowski et al. (US Patent Application Publication No. 2003/0169733), Pathak et al. (US Patent No. 7,158,727), Wong et al. (US Patent No. 7,194,059).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis Alias whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAA

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600